User Guide

User Guide

Version 10.3

The specification is subject to change without notice. Manufacturer assumes no responsibility for Error Contained here in

Part No. 915211101002

IMPORTANT SAFETY INSTRUCTIONS

1. Please read these instructions carefully before using the product and save for later reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Clean the product with a damp soft cloth. Do not use liquid or aerosol cleaners as it may cause permanent damage to the screen.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table.
   The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered.
   The openings should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet.
   Do not defeat the purpose of the grounding-type plug.
9. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
10. If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord does not exceed the extension cord ampere rating. Also make sure that the total of all products plugged into the wall outlet does not exceed 15 amps.
11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
12. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks and will void the warranty. Refer all servicing to qualified service personnel.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
14. When the power cord or plug is damaged or frayed.
15. If liquid has been spilled into the product.

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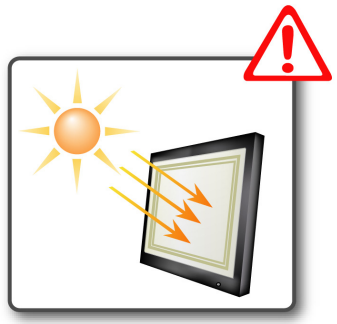
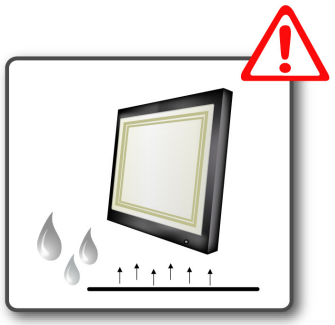
16. If the product has been exposed to rain or water.
17. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
18. If the product has been dropped or the cabinet has been damaged.
19. If the product exhibits a distinct change in performance, indicating a need for service.

CAUTION

Read manual prior to installing the product. The operation of products depends on you reading and following the information in this manual.

Re-check your work prior to operating the product.

EVENT	EFFECT	PREVENTION
	Sunlight shines directly will cause the panel damage.	You should avoid placing the product under direct sunlight.
	If the product is close to the wet ground such as grassplot, the moisture between panel and glass will make the product malfunction.	You should avoid placing the product in wet environment.

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1. Introduction

1-1 About the Product

This product is a microprocessor-controlled to work with 6.4”~23” TFT LCD panel. It is designed to meet the demanding performance requirements of today’s business and industrial applications.

1-2 Notice

1. Do not touch the LCD panel surface with sharp or hard objects.
2. Do not use abrasive cleaners, waxes or solvents for cleaning, use only a dry or damp, soft cloth.
3. Use only with a high quality, safety-approved, AC/DC power adapter.

1-3 Check List

Before using this monitor, please make sure that all the items listed below are present in your package

1. VGA cable ×1
2. AC to DC adapter ×1
3. Power cable ×1
4. User manual ×1
5. DVI cable (optional) x1
6. Audio cable (optional) x1

If any items are missing or damaged, please contact your dealer immediately.

2. Installing the Monitor

The procedures for setting up your TFT LCD monitor kit is as follows:

2-1 Power & Signal Connections

2-1-1. Power:

Switch off the power on both your monitor and your computer.
The Power Switch is located in the center of the monitor.

2-1-2. Power cable connection:

Connect the power cord to the AC outlet, and connect the power to the monitor through the AC/DC adapter.

2-1-3. VGA Signal cable connection:

Plug one end of the 15-pin signal cable to the video signal connector at the rear of the PC system and the other end to the monitor.
Secure the connectors with the screws on the cable connector at both ends.

2-2 Optional Connections:

2-2-1 Compatible cable connection (Optional):

The LCD monitor is designed to work with a variety of compatible video sources. Due to possible deviations between these video sources, you may have to make some adjustment to the monitor settings when switching between these sources. These adjustments are made from the OSD menu.

2-2-2 DVI cable connection (Optional):

Plug one end of the DVI signal cable to the video signal connector at the rear of the PC system and the other end to the monitor.
Secure the connectors with the screws on the cable connector at both ends.

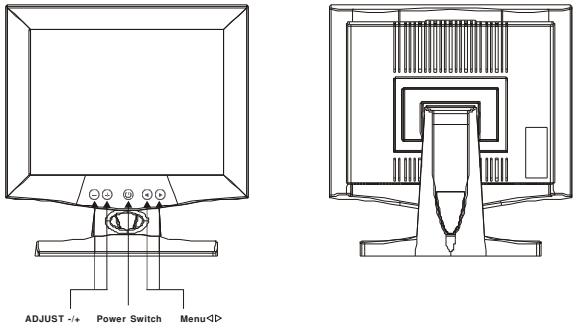
3. Using VGA LCD Monitor

3-1 Outline Drawing

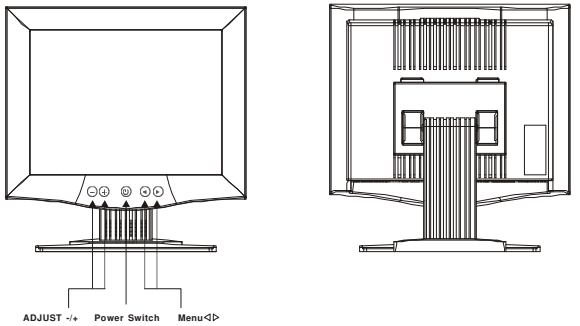
The LCD monitor controls are located on the lower front side of the panel. The open frame and chassis monitor controls are located on the higher rear side of the panel. They are shown in the figure below and described in the following paragraphs.

Type Ⅰ: LCD Monitor (15")

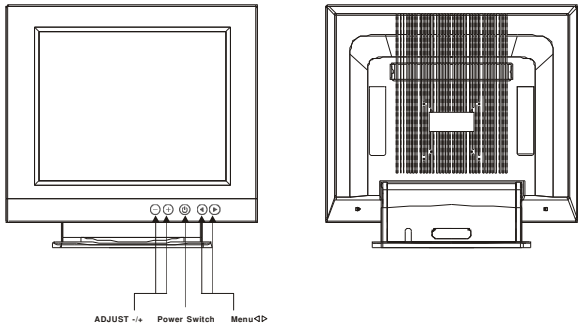
Stand Ⅰ



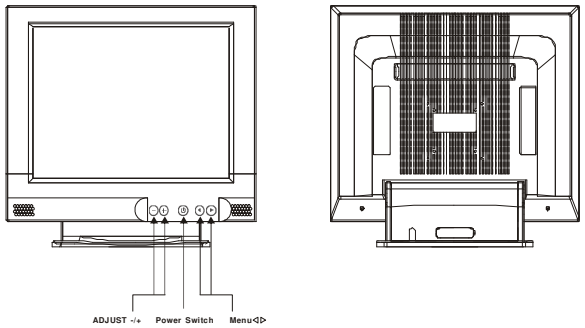
Stand Ⅱ



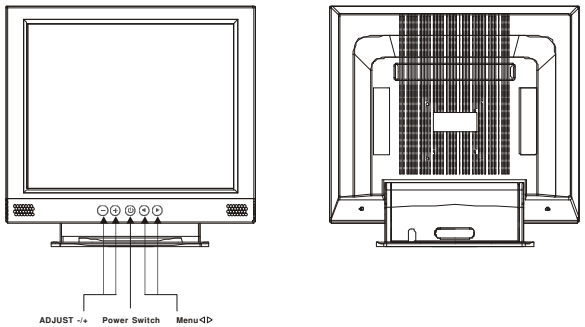
Type Ⅱ: LCD Monitor (17")



Type Ⅲ: LCD Monitor (18")

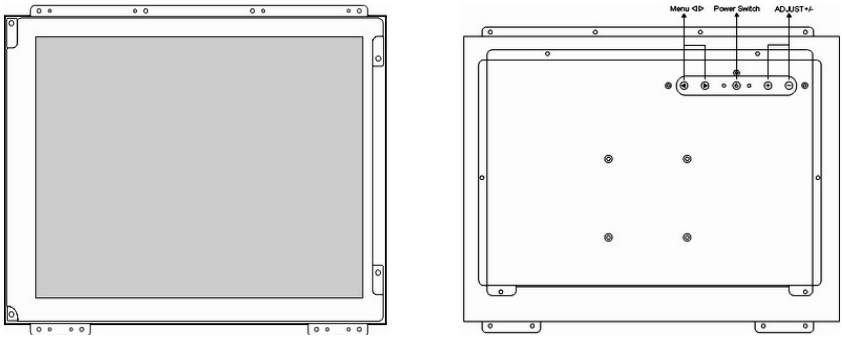


Type Ⅳ: LCD Monitor (19")

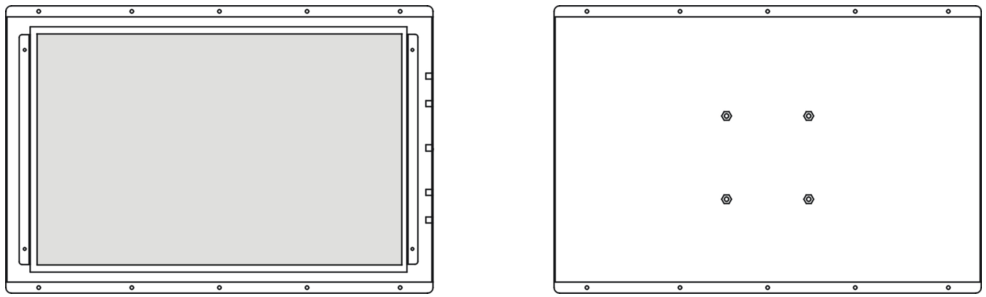


Type Ⅴ: Open Frame Monitor (15"/15.4")

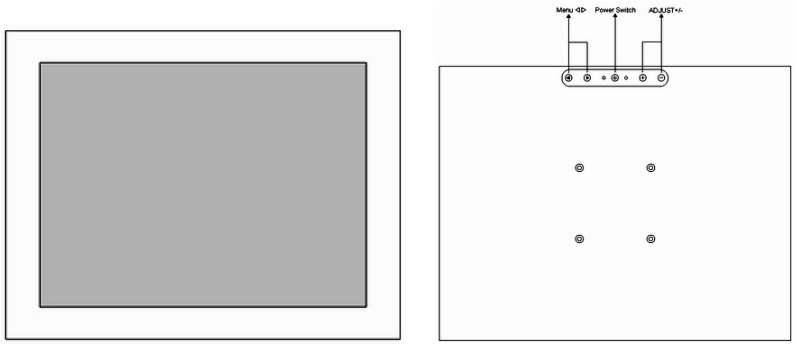
Stand Ⅰ (***15"***)



Stand Ⅱ (15.4")

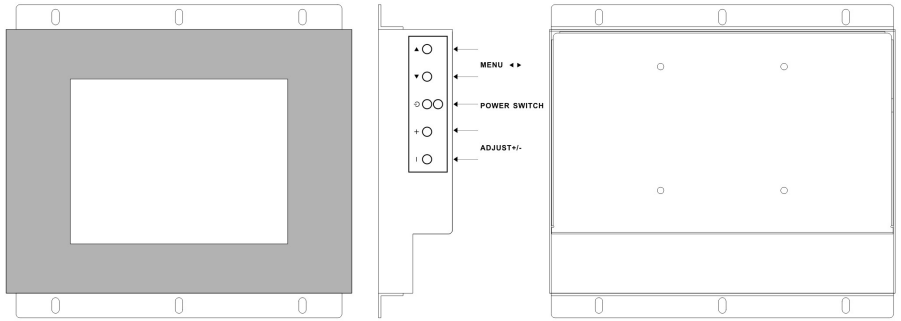


Type Ⅵ: Chassis Monitor (10.4"~19")

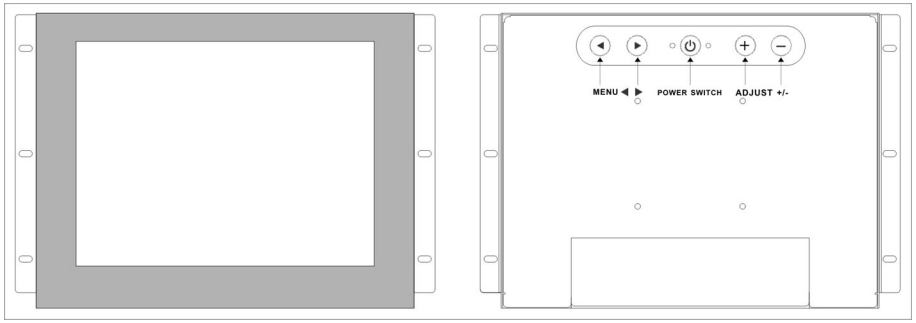


Type Ⅶ: Rear Mount Monitor

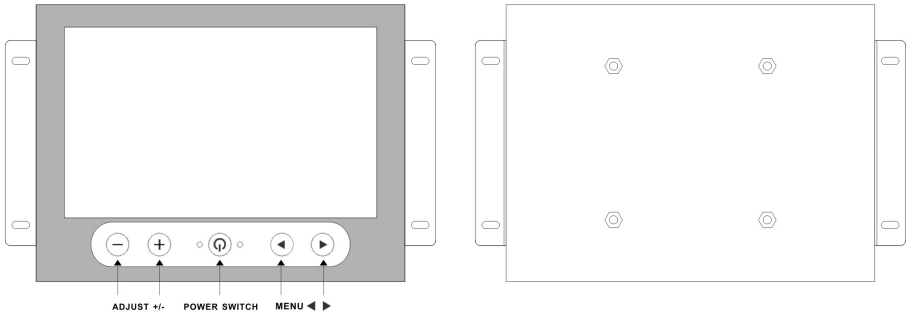
Stand Ⅰ (6.4", 8.4")



Stand Ⅱ (10.4"~19")

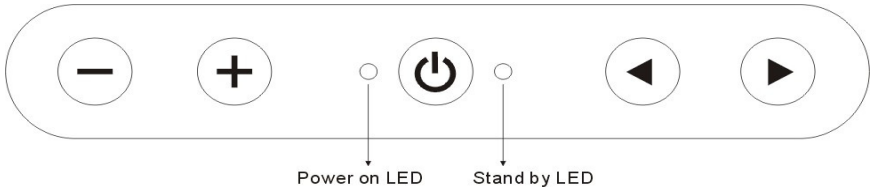


Stand Ⅲ (7")

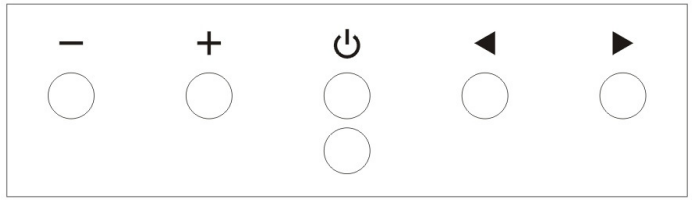


3-2 Control Key Definition

LCD Monitor, Open Frame, Chassis, Rear Mount Monitor Stand Ⅱ and Ⅲ



Rear Mount Monitor Stand Ⅰ



Key Pad Hot Key Function

Item	Description
►	Call main **OSD menu**
◄	Press this key to trigger the function for **automatic adjustment**
⏻	**Power switch**
+	Press this key to increase the value of **volume adjustment**
−	Press this key to decrease the value of **volume adjustment**
◄ and +	Press this compound key to trigger the function for **source input switch**

3-3 Navigating the OSD Menu

a. Display the main menu

Press the MENU button (►) to display the main menu on the screen.

b. Select the menu you want to adjust

Press the +/− button to shift the item selections up or down until it is desired, and then press the button (►) again to enter the menu item.

c. Adjust the item setting

Press the +/− button to adjust the value of setting. Once you adjust the value of setting, the value will be stored automatically.

d. Exit the OSD menu

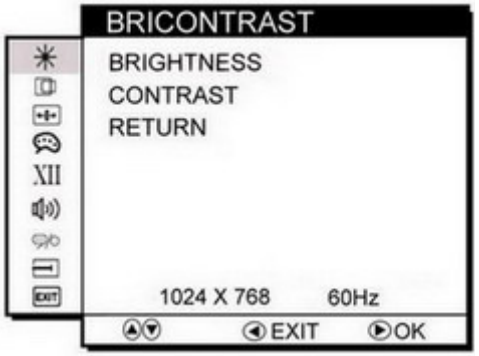
To return the regular screen viewing, select the “EXIT OSD” item or press the Exit Key (◄) directly. If there is no command respond for 30 seconds, OSD menu will be closed automatically.

3-4 OSD Menu on VGA Mode

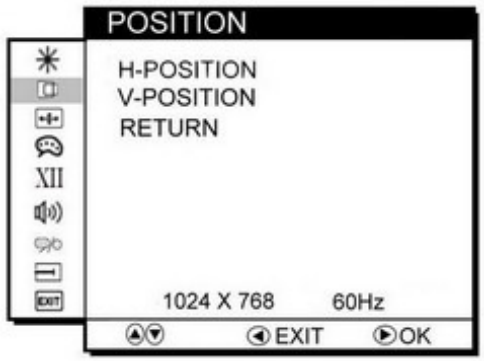
✳ BRICONTRAST

Press "+" to increase or "-" to decrease the brightness or contrast.

- BRIGHTNESS: Use to adjust the screen’s brightness
- CONTRAST: Use to adjust the screen’s contrast



POSITION



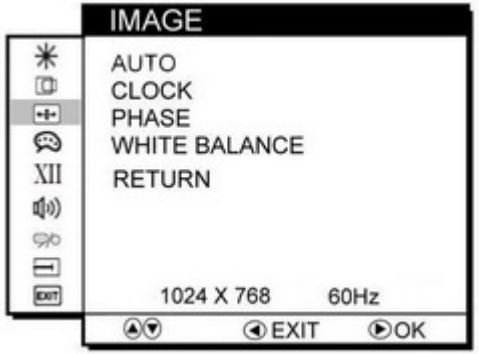
You can adjust the screen’s position by horizontal and vertical manually.

- H-POSITION: Use to adjust the image to the left or right on the screen
- V-POSITION: Use to adjust the image up or down on the screen

IMAGE

You can adjust the value of screen quality automatically.

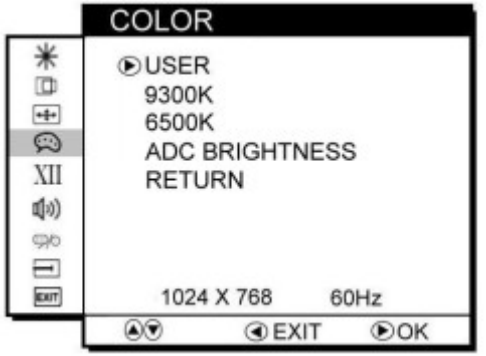
- AUTO: Use to choose the best settings for the current input signal
- CLOCK: Use to adjust the value of horizontal image
- PHASE: Use to adjust the phase control (Phase adjustment may be required to optimize the display quality)
- WHITE BALANCE: Use to set RGB signal voltage level



COLOR

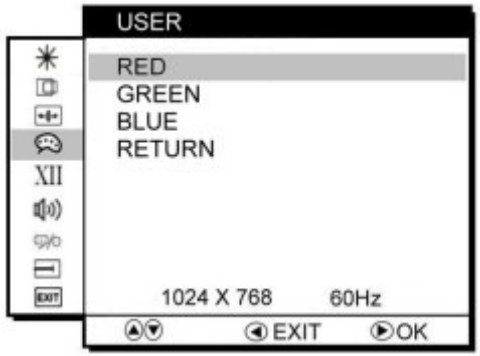
You can select the screen’s color level of the white color field from the default color temperature settings. Also, you can fine tune the color temperature by USER option if necessary.

- USER: Choose RED/GREEN/BLUE to set value of color temperature brightness to suit you own preference
- 9300: Use to set value of



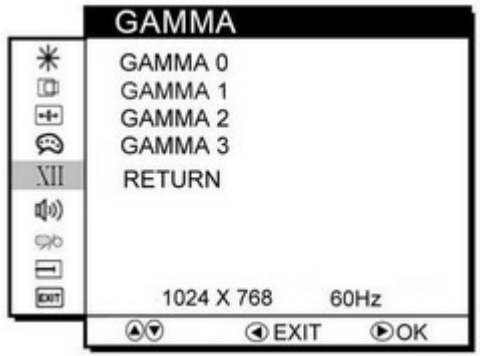
monitor for the CIE coordinate 9300 color temperature

- 6500K: Use to set value of monitor for the CIE coordinate 6500 color temperature
- ADC Brightness: Set value of monitor for ADC Brightness



XII GAMMA

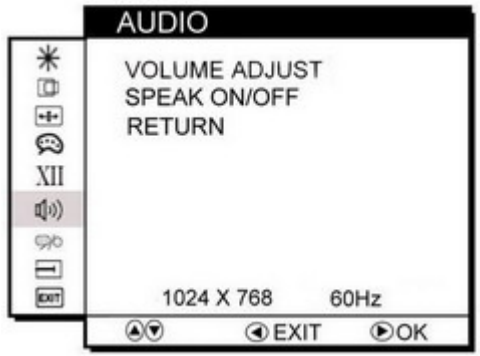
You can adjust the value of GAMMA; there are four default value groups for your choice. Select “RETURN” to return the main menu.



AUDIO(optional)

You can adjust the setting of speaker, including volume and mute.

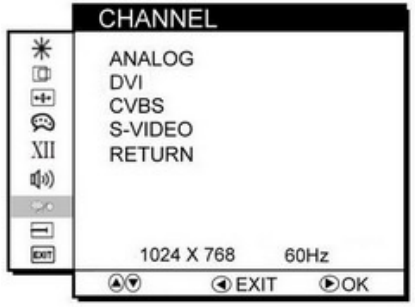
- VOLUME ADJUST: Use to adjust the volume of speaker
- SPEAK ON/OFF: Use to make the speaker work or mute



CHANNEL(optional)

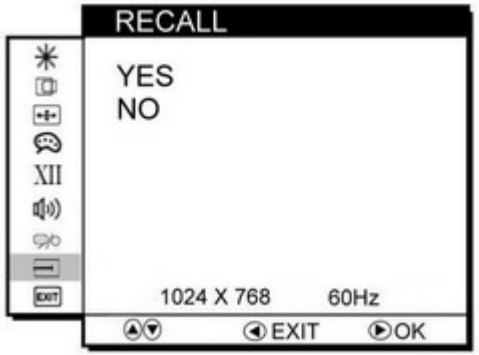
You can switch the setting of signal input channel.

- ANALOG: Use to change the input signal to Analog mode
- DVI: Use to change the input signal to DVI mode
- CVBS: Use to change the input signal to Composite mode
- S-VIDEO: Use to change the input signal to S-Video mode



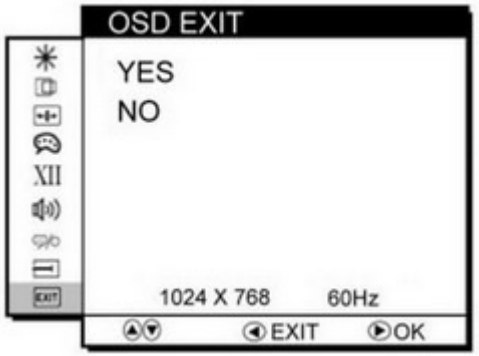
RECALL

You can recall the factory default setting by selecting “YES”. Select “NO” to return the main menu.



OSD EXIT

You can exit the OSD menu by selecting “YES”. Select “NO” to return the main menu.



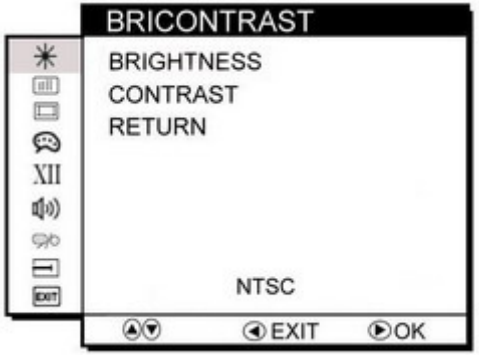
Summary

	BRICONTRAST	BRIGHTNESS CONTRAST	XII	GAMMA	GAMMA 0 GAMMA 1 GAMMA 2 GAMMA 3
	POSITION	H-POSITION V-POSITION		AUDIO	VOLUME ADJUST SPEAK ON/OFF

	IMAGE	AUTO CLOCK PHASE WHITE BALANCE		CHANNEL	ANALOG DVI CVBS S-VIDEO
	COLOR	USER └*(RED/GREEN/BLUE)* 9300K 6500K ADC BRIGHTNESS		RECALL	YES NO
			EXIT	OSD EXIT	YES NO

3-5 OSD Menu on AV(CVBS/S-Video) Mode (Option)

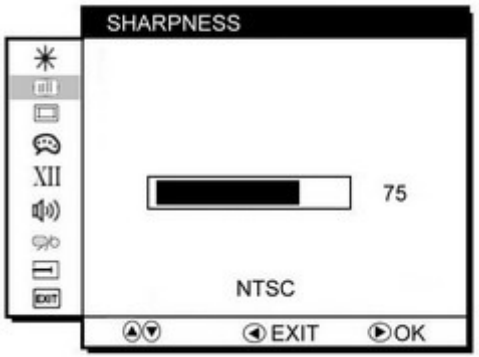
✳ BRICONTRAST



Press "+" to increase or "-" to decrease the brightness or contrast.

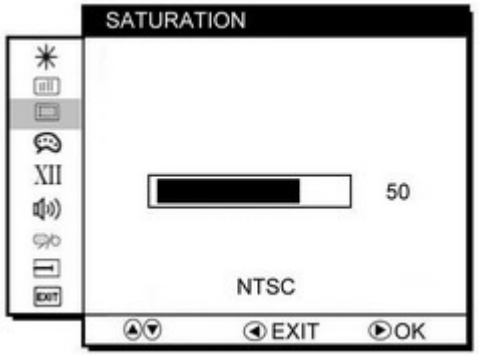
- BRIGHTNESS: Use to adjust the screen's brightness
- CONTRAST: Use to adjust the screen's contrast

SHARPNESS



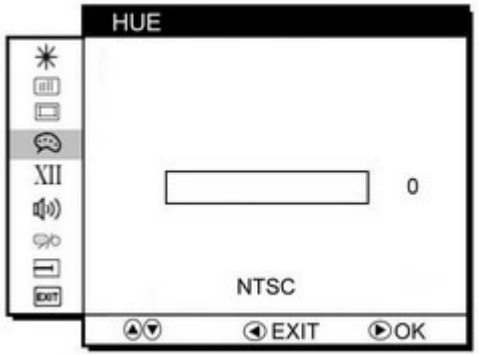
Press "+" to increase or "-" to increase or decrease the value of sharpness. This function allows the user to optimize the sharpness of the image.

SATURATION



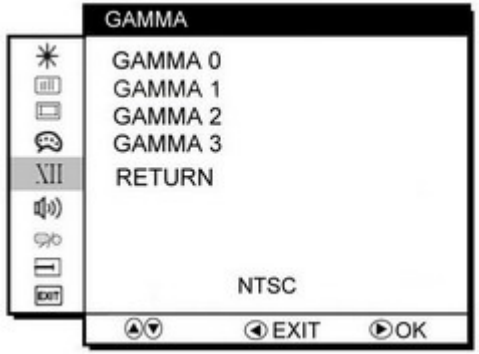
Press "+" to increase or "-" to increase or decrease the value of saturation.

HUE



Press "+" to increase or "-" to obtain the desired color settings. The HUE is defined as a phase shift of the sub-carrier with respect to the burst.

XII GAMMA



You can adjust the value of GAMMA; there are four default value groups for your choice. Select "RETURN" to return the main menu.

AUDIO(optional)

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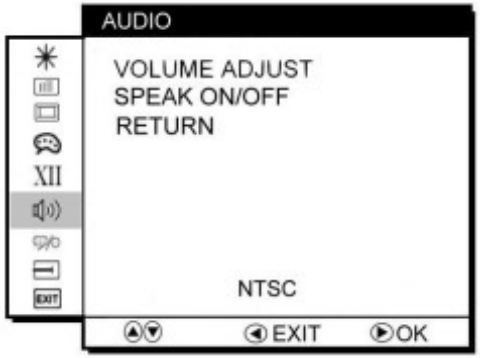

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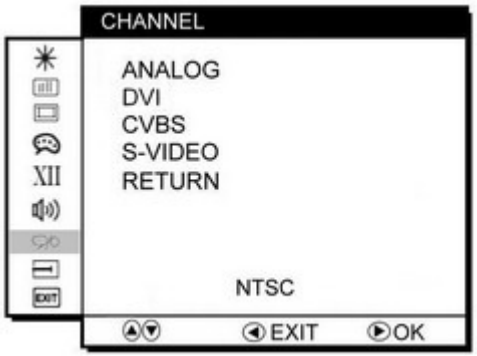
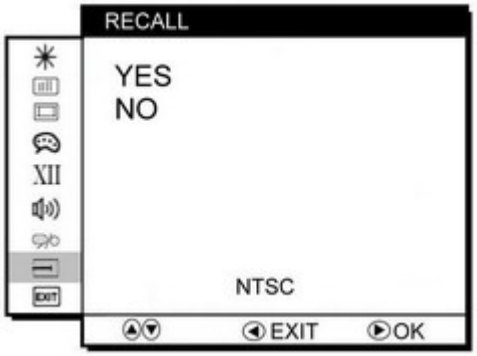


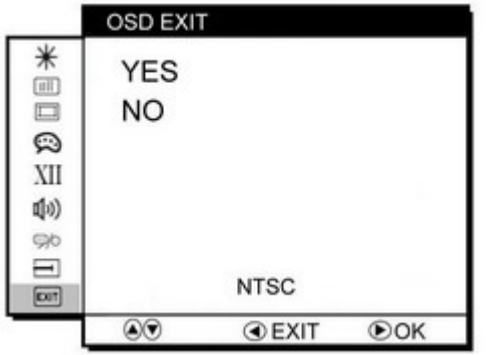
RECALL

You can recall the factory default setting by selecting “YES”. Select “NO” to return the main menu.



OSD EXIT

You can exit the OSD menu by selecting “YES”. Select “NO” to return the main menu.



Summary

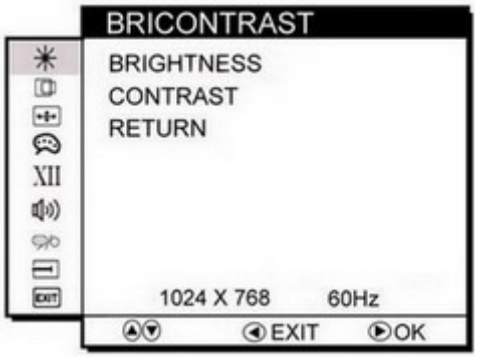
	BRICONTRAST	BRIGHTNESS CONTRAST		AUDIO	VOLUME ADJUST SPEAK ON/OFF
	SHARPNESS			CHANNEL	ANALOG DVI CVBS S-VIDEO
	SATURATION				
	HUE			RECALL	YES NO
XII	GAMMA	GAMMA 0 GAMMA 1 GAMMA 2 GAMMA 3	EXIT	OSD EXIT	YES NO

3-6 OSD Menu on DVI Mode (Option)

BRICONTRAST

Press "+" to increase or "-" to decrease the brightness or contrast.

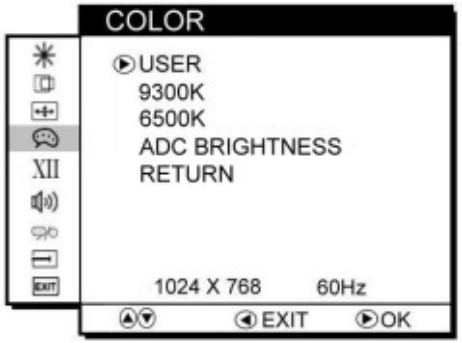
- BRIGHTNESS: Use to adjust the screen’s brightness
- CONTRAST: Use to adjust the screen’s contrast

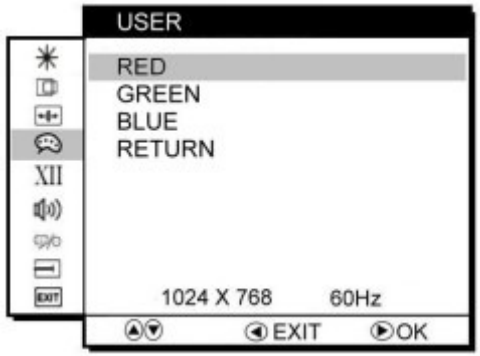


COLOR

You can select the screen's color level of the white color field from the default color temperature settings. Also, you can fine tune the color temperature by USER option if necessary.

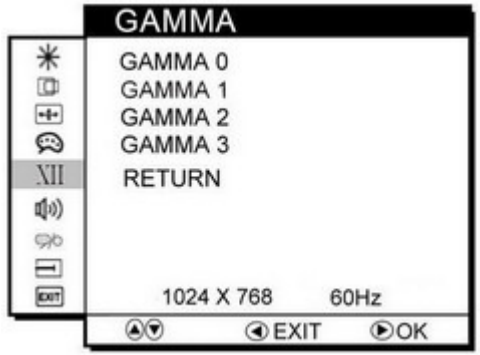
- USER: Choose RED/GREEN/BLUE to set value of color temperature brightness to suit you own preference
- 9300: Use to set value of monitor for the CIE coordinate 9300 color temperature
- 6500K: Use to set value of monitor for the CIE coordinate 6500 color temperature
- ADC Brightness: Set value of monitor for ADC Brightness





GAMMA

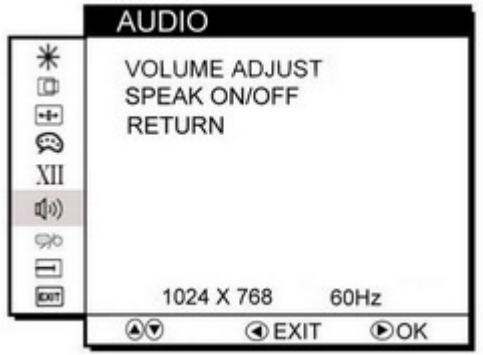
You can adjust the value of GAMMA; there are four default value groups for your choice. Select "RETURN" to return the main menu.



AUDIO(optional)

You can adjust the setting of speaker, including volume and mute.

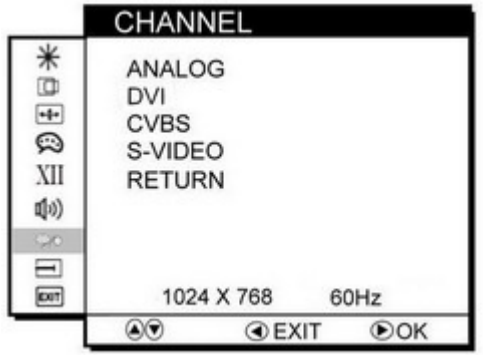
- VOLUME ADJUST: Use to adjust the volume of speaker
- SPEAK ON/OFF: Use to make the speaker work or mute



CHANNEL(optional)

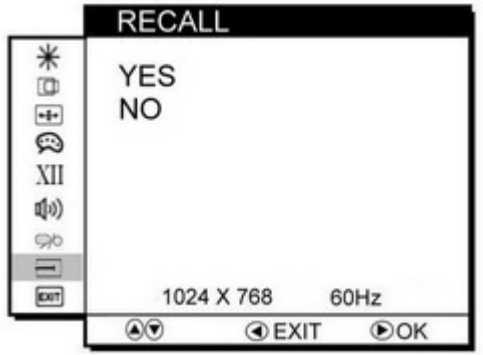
You can switch the setting of signal input channel.

- ANALOG: Use to change the input signal to Analog mode
- DVI: Use to change the input signal to DVI mode
- CVBS: Use to change the input signal to Composite mode
- S-VIDEO: Use to change the input signal to S-Video mode



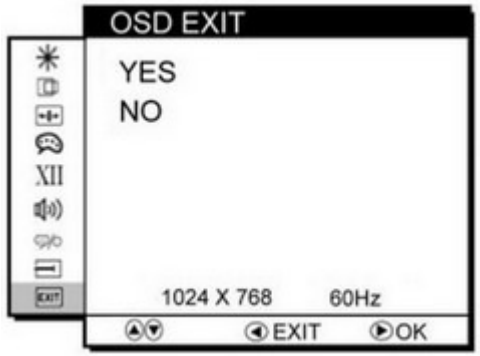
RECALL

You can recall the factory default setting by selecting "YES". Select "NO" to return the main menu.



EXIT OSD EXIT

You can exit the OSD menu by selecting “YES”. Select “NO” to return the main menu.



Summary

☀	BRICONTRAST	BRIGHTNESS CONTRAST		CHANNEL	ANALOG DVI CVBS S-VIDEO
	COLOR	USER └*(RED/GREEN/BLUE)* 9300K 6500K ADC BRIGHTNESS		RECALL	YES NO
XII	GAMMA	GAMMA 0 GAMMA 1 GAMMA 2 GAMMA 3	EXIT	OSD EXIT	YES NO
	AUDIO	VOLUME ADJUST SPEAK ON/OFF			

4. Cleaning the LCD Monitor

1. Make sure the monitor is turned off.
2. Never spray or pour any liquid directly onto the screen or case.
3. Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles.
4. The display area is highly prone to scratching. Do not use ketone type material (e.g. Acetone), Ethyl alcohol, toluene, ethyl acid or Methyl chloride to clear the panel. It may permanently damage the panel and void the warranty.
5. If it is still not clean enough, apply a small amount of non-ammonia, non-alcohol based glass cleaner onto a clean, soft, lint-free cloth, and wipe the screen.

6. Don't use water or oil directly on the monitor. If droplets are allowed to dry on the monitor permanent staining or discoloration may occur.

5. Disclaimer

We do not recommend using any ammonia or alcohol-based cleaners on the monitor screen or case. Some chemical cleaners have been reported to damage the screen and/or case of the monitor. The manufacturer will not be liable for damage resulting from the use of any ammonia or alcohol-based cleaner.

6. Trouble Shooting

If your monitor fails to operate correctly, consult the following chart for possible solution before calling for repairs:

Condition	Check Point
1. The picture does not appear	● Check if the signal cable is firmly seated in the socket. ● Check if the Power is ON at the computer ● Check if the brightness control is at the appropriate position, not at the minimum.
2. The screen is not synchronized	● Check if the signal cable is firmly seated in the socket. ● Check if the output level matches the input level of your computer. ● Make sure the signal timings of the computer system are within the specification of the monitor. ● If your computer was working with a CRT monitor, you should check the current signal timing and turn off your computer before you connect the VGA Cable to this monitor.
3. The position of the screen is not in the center	● Adjust the H-position, and V-position, or Perform the Auto adjustment.
4. The screen is too bright (too dark).	● Check if the brightness or contrast control is at the appropriate position, not at the Maximum (Minimum).
5. The screen is shaking or waving	● Press ◁ (the Auto - adjustment control) to adjust. Moving all objects which emit a magnetic field such as motor or transformer, away from the monitor. Check if the specific voltage is applied. ● Check if the signal timing of the computer system is within the specification of monitor.

If you are unable to correct the fault by using this chart, stop using your

monitor and contact your distributor or dealer for further assistance.

7. Appendix A

7-1 VGA Input Format

17”/18”/19" LCD SXGA/XGA Modes

Input mode	Resolution	Zoom to 1024X768	Zoom to 1280X1024
SXGA	1280×1024	N/A	1:1
XGA	1024×768	1:1	Scale up
SVGA	800×600	Scale up	Scale up
VGA	640×480	Scale up	Scale up
DOS (TEXT)	640×400	Scale up	Scale up
DOS (EGA)	640×350	Scale up	Scale up
TEXT	720×400	Scale up	Scale up
MAC	832×624	N/A	N/A
NTSC	720×(240×2)	De-interlaced	De-interlaced
PAL	720×(288×2)	De-interlaced	De-interlaced

15"/15.1"LCD Modes

Input mode	Resolution	Zoom to 1024X768
XGA	1024×768	1:1
SVGA	800×600	Scale up
VGA	640×480	Scale up
DOS(TEXT)	640×400	Scale up
DOS(EGA)	640×350	Scale up
TEXT	720×400	Scale up
MAC	832×624	HQ scale up
NTSC	720×(240×2)	De-interlaced
PAL	720×(288×2)	De-interlaced

13.3"/14.1"/15.4” LCD Modes

Input mode	Resolution	Zoom to 1280X800
WXGA	1280X800	1:1
XGA	1024×768	Scale up
SVGA	800×600	Scale up
VGA	640×480	Scale up
	720x400	Scale up
DOS(TEXT)	640×400	Scale up
DOS(EGA)	640×350	Scale up
NTSC	720×(240×2)	De-interlaced
PAL	720×(288×2)	De-interlaced

*De-interlaced means interlaced video signal fits to the panel resolution, and the starting lines on the panel are different to compensate the offset of even and odd fields.

7-2 Composite Video Input; Y/C Video input (S-Video) (optional)

Video Format	Resolution	Frequency	County Support
NTSC-M	525X60	3.58MHZ	U.S., Japan, may others
PAL	625X50	4.43MHZ	China, Europe, may others

8. Appendix B

8-1 Separate RGB Video Signal (VGA) Input Timing

Input Timing Range: H : 30-80KHz; V : 50-75Hz

17”/18”/19" SXGA LCD Resolution Modes

Mode	Resolution	H-Freq. (KHz)	V-Freq. (Hz)
Mode 1	640×350	31.5	70
Mode 2	640×400	31.5	70
Mode 3	640×480	31.5	60
Mode 4	640×480	37.9	72
Mode 5	640×480	37.5	75
Mode 6	720×400	31.47	70
Mode 7	800×600	35.1	56
Mode 8	800×600	37.9	60
Mode 9	800×600	48.1	72
Mode 10	800×600	46.9	75
Mode 11	1024×768	48.4	60
Mode 12	1024×768	56.5	70
Mode 13	1024×768	60.0	75
Mode 14	1280×1024	64.0	60
Mode 15	1280×1024	80.0	75

15"/15.1”/12.1” XGA LCD Resolution Modes

Mode	Resolution	H-Freq. (KHz)	V-Freq. (Hz)
Mode 1	640×350	31.5	70
Mode 2	640×400	31.5	70
Mode 3	640×480	31.5	60
Mode 4	640×480	37.9	72
Mode 5	640×480	37.5	75
Mode 6	720×400	31.5	70
Mode 7	800×600	35.1	56
Mode 8	800×600	37.9	60
Mode 9	800×600	48.1	72
Mode 10	800×600	46.9	75
Mode 11	1024×768	48.4	60
Mode 12	1024×768	56.5	70
Mode 13	1024×768	60.0	75

12.1”/10.4”/8.4” SVGA LCD Resolution Modes

Mode	Resolution	H-Freq. (KHz)	V-Freq. (Hz)
Mode 1	640×350	31.5	70
Mode 2	640×400	31.5	70
Mode 3	640×480	31.5	60
Mode 4	640×480	37.9	72
Mode 5	640×480	37.5	75
Mode 6	720×400	31.5	70
Mode 7	800×600	35.1	56
Mode 8	800×600	37.9	60
Mode 9	800×600	48.1	72
Mode 10	800×600	46.9	75

10.4"/8.4”/6.4” VGA LCD Resolution Modes

Mode	Resolution	H-Freq. (KHz)	V-Freq. (Hz)
Mode 1	640×350	31.5	70
Mode 2	640×400	31.5	70
Mode 3	640×480	31.5	60
Mode 4	640×480	37.9	72
Mode 5	640×480	37.5	75

6.4” VGA LCD Resolution Modes

Mode	Resolution	H-Freq. (KHz)	V-Freq. (Hz)
Mode 1	640×480	31.5	60

7" WVGA LCD Resolution Modes

Mode	Resolution	H-Freq. (KHz)	V-Freq. (Hz)
Mode 1	640×350	31.5	70
Mode 2	640×400	31.5	70
Mode 3	640×480	31.5	60
Mode 4	640×480	37.9	72
Mode 5	640×480	37.5	75
Mode 6	800×480	31.5	60

Note: The maximum supporting resolution depends on panel specification; this table is for your reference.

17"/23" WXGA LCD Resolution Modes
Resolution Modes

Mode	Resolution	H-Freq. (KHz)	V-Freq. (Hz)
Mode 1	640×350	31.5	70
Mode 2	640×400	31.5	70
Mode 3	640×480	31.5	60
Mode 4	640×480	37.9	72
Mode 5	640×480	37.5	75
Mode 6	720×400	31.47	70
Mode 7	800×600	35.1	56
Mode 8	800×600	37.9	60
Mode 9	800×600	48.1	72
Mode 10	800×600	46.9	75
Mode 11	1024×768	48.4	60
Mode 12	1024×768	56.5	70
Mode 13	1024×768	60.0	75
Mode 14	1280x768	48.4	60
Mode 15	1280x768	56.5	70
Mode 16	1280x768	60.0	75

13.3"/14.1"/15.4" WXGA LCD Resolution Modes
Resolution Modes

Mode	Resolution	H-Freq. (KHz)	V-Freq. (Hz)
Mode 1	640×480	31.5	60
Mode 2	640×480	37.9	72
Mode 3	640×480	37.5	75
Mode 4	720×400	31.47	70
Mode 5	800×600	35.1	56
Mode 6	800×600	37.9	60
Mode 7	800×600	48.1	72
Mode 8	800×600	46.9	75

Mode 9	1024×768	48.4	60
Mode 10	1024×768	56.5	70
Mode 11	1024×768	60.0	75
Mode 12	1280x800	48.4	60

8-2 DVI Input Timing (optional)

Input Timing Range: H : 31.47-80 KHz; V : 60Hz

Mode	Resolution	H-Freq.(KHz)	V-Freq.(Hz)
Model 1	640×480	31.47	60
Model 2	800×600	37.87	60
Model 3	1024×768	48.36	60
Model 4	1280×1024	64.0	60

9. Appendix C RS232 command code(optional)

9-1 RS232 settings

Baud Rate = 9600, Data Bits=8, Parity = None, Stop Bits=1

NO.	Function	Length	Command	index	Value	Checksum(*1)
1	Power	0x05	0x40	0x00	0=Power On 1=Power Off	0xBB=Power On 0xBA=Power Off
2	Auto	0x05	0x40	0x01	0=Auto	0xBA=Auto
3	Recall	0x05	0x40	0x02	0=Recall	0xB9=Recall
4	WhiteBalance	0x05	0x40	0x03	0=WhiteBalance	0xB8=WhiteBalance
5	Mail Input Source	0x05	0x40	0x04	0=VGA 1=DVI 2=CVBS 3=Svideo	0xB7=VGA 0xB6=DVI 0xB5=CVBS 0xB4=S-Video
6	Brightness	0x05	0x40	0x10	0x00~0x64	0xAB=00 ~ 0x47=100
7	Contrast	0x05	0x40	0x11	0x00~0x64	0xAA=00 ~ 0x46=100
8	Hue	0x05	0x40	0x12	0x00 ~ 0xFF	0xA9=0 ~ 0x56=100

9	Saturation	0x05	0x40	0x13	0x00 ~ 0x64	0xA8=0 ~ 0x44=100
10	Gamma	0x05	0x40	0x31	0=Gamma 0 1=Gamma 1 2=Gamma 2 3=Gamma 3	0x8A=Gamma 0 0x89=Gamma 1 0x88=Gamma 2 0x87=Gamma 3
11	Color Temp	0x05	0x40	0x32	0=user 1=9300K 2=6500K	0x89=User 0x88=9300K 0x87=6500K
12	Color-R	0x05	0x40	0x33	0x00-0x64	0x88=00 ~ 0x24=100
13	Color-G	0x05	0x40	0x34	0x00-0x64	0x87=00 ~ 0x23=100
14	Color-B	0x05	0x40	0x35	0x00-0x64	0x86=00 ~ 0x22=100
15	Volume	0x05	0x40	0x50	0x00-0x1F	0x6B=00 ~ 0x4C=31
16	Mute	0x05	0x40	0x54	0=Mute On 1=Mute OFF	0x67=Mute On 0x66=Mute Off

Reply Value :

ACK	3 C F1	Transmission PASS
NSP	3 D F2	Transmission FAILED

Format： Length, Command, index, Value, Checksum

Example：0x05, 0x40, 0x00, 0x01, 0xba => Power Off system.

*1: Checksum is 2's complement of sum of length and all messages.

9-2 Using RS-232 Command Code to check system status

	Command(Tx)				Acknowledgement(Rx)			
Function	Length	Command	index	Checksum(*1)	Length	index	Value	Checksum(*1)
Power	0x04	0x30	0x00	0xCC	0x04	0x00	0=Power On 1=Power Off	0xFC=Power On 0xFB=Power Off
Main Input Source	0x04	0x30	0x04	0xC8	0x04	0x04	0=VGA 1=DVI 2=CVBS 3=Svideo	0xF8=VGA 0xF7=DVI 0xF6=CVBS 0xF5=Svideo
Brightness	0x04	0x30	0x10	0xBC	0x04	0x10	0x00-0x64	0xEC=0 ~ 0x88=100
Contrast	0x04	0x30	0x11	0xBB	0x04	0x11	0x00-0x64	0xEB=0 ~ 0x87=100
Hue	0x04	0x30	0x12	0xBA	0x04	0x12	0x00-0xFF	0xEA=0 ~ 0x27=255
Saturation	0x04	0x30	0x13	0xB9	0x04	0x13	0x00~0x64	0xE9=0 ~ 0x85=100
Gamma	0x04	0x30	0x31	0x9B	0x04	0x31	0=Gamma 0 1=Gamma 1 2=Gamma 2 3=Gamma 3	0xCB=Gamma 0 0xCA=Gamma 1 0xC9=Gamma 2 0xC8=Gamma 3
Color Temp	0x04	0x30	0x32	0x9A	0x04	0x32	0=user 1=9300K 2=6500K	0xCA=user 0xC9=9300k 0xC8=6500k
Color-R	0x04	0x30	0x33	0x99	0x04	0x33	0x00-0x64	0xC9=0 ~ 0x65=100

Color-G	0x04	0x30	0x34	0x98	0x04	0x34	0x00-0x64	0xC8=0 ~ 0x64=100
Color-B	0x04	0x30	0x35	0x97	0x04	0x35	0x00-0x64	0xC7=0 ~ 0x63=100
Volume	0x04	0x30	0x50	0x7C	0x04	0x50	0x00-0x1F	0xAC=0 ~ 0x8D=31
Mute	0x04	0x30	0x54	0x78	0x04	0x54	0=Mute On 1=Mute OFF	0xA8=Mute On 0xA7=Mute OFF

Reply Value：

ACK	Acknowledgement code	Transmission PASS
NSP	3 D F2	Transmission FAILED

Format： Length, Command, index, Checksum / Length, Index, Value, Checksum

Example：0x04, 0x30, 0x00, 0xCC => Check Power status.

If Reply is 0x04, 0x00, 0x00, 0xFC=> System power on

***1**： Checksum is 2's complement of sum of length and all messages.

MEMO: